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Impact of Pranayama on Stress, Agony, and Quality of Life for Jobless People

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ABSTRACT

Even though the effectiveness of Pranayama has been widely studied, research with jobless groups is not all done in Indian scenario. Jobless people undergo from bigger levels of stress, agony, and negative life events that can present a complicated web of indissoluble stressors. Mind-body practices such as Pranayama may have the probable to reduce the negative impacts on stress and quality of life that may go together with their job instability. The objective of the present study was to examine the impact of Pranayama), a yoga-based breathing exercise, on perceived stress, agony, and quality of life among jobless adults at Nagpur city in India. Self-report method were collected from 117 Pranayama group participants and 79 participants who received normal treatment for stress reduction. An assessment of within group differences proposes that behaviour group respondents have experience statistically noteworthy improvements after only 4 to 6 sessions of Pranayama. Results from this research study suggests that Pranayama may be effectual in tumbling negative psychological states and improving quality of life for jobless people experiencing agony. Nevertheless, these outcomes must be interpreted with prudence due to the be short of adequate control group data. This research study highlights the importance of examining the possible of Pranayama for jobless and less income populations.

Keywords: Pranayama, jobless, stress,agony, quality of life.

INTRODUCTION

Recent review of literature examine the developing potential for implementing Pranayama for the general public (Chandrakala and Sekaran, 2009), those with psychiatric related disorders (Chandrakala and Sekaran, 2009; Rubini, 2009).Beneficial results of Pranayama and mind-body training have also been validated for individuals experiencing higher levels of agony due to health problems such as chronic-pain (Kabat-Zinn, 2005). Potential benefits have also been reported for those acute traumatic stress and uncontrollable life happenings such as conflict (Staples et. al., 2011), incarceration (Samuelson et. al., 2007) and huge-level disasters (Gerbarg, Wallace, and Brown, 2011).

One population with which Pranayama practices have yet to be studied are jobless people. Heightened levels of psychology oriented agony experienced by those who are jobless are well-evidenced (Wong and Piliavin, 2001). Joblessness affects individuals, families, and children across all genders, ages, religions, communities and geographic areas. While accurate counts of the jobless are difficult to obtain, it is estimated that approximately 20 to 35 million people in India experience joblessness on an annual basis.

Though stress and overcoming stress are perhaps one of the most widely studied topics in psychology today (Hobfoll, Schwarzer, and Chon, 1998), there appears to be a gap in the methodical oriented literature around the potential for stress reduction education programs to be of solution to jobless people (Parasuraman, 2002; Szerlip and Szerlip, 2002). Though the potential for stress reduction programs to improve health such as cardiovascular syndrome (Szerlip and Szerlip, 2002) and psychological disorders, only just one qualitative study was completed with jobless people (Parasuraman, 2002). Similarly, within the extensive body of Pranayama research only three studies examine Pranayama training with jobless individuals (Grabbe et al., 2011; Hick and Furlotte, 2010; Parasuraman, 2002). These exploratory studies underscore the potential benefit for stress reduction program and Pranayama training with the jobless and call for further exploration.

According to Patanjali, Pranayaman means regulation of breath or the control of prana is the stoppage of inhalation and exhalation, which follows after securing that steadiness of posture or seat. Swasa means inspiratory breath. Pravasa means expiratory breath. One can only take up the practice of Pranayama gaining steadiness in some specific Asana (posture). According to scientific Yoga literature, if one sit for three hours in one Asana continuously at one stretch, he/she considered to have gained mastery over the Asana. If one is able to sit from even half to one hour then, one can take up the practice of Pranayama. No one can make any spiritual progress without the practice of Pranayama, as per

the traditional faith. The purpose of the current study is to evaluate these archival data to explore the effectiveness of Pranayama training in reducing stress and psychological agony and in improving quality of life for jobless people.

REVIEW OF LITERATURE

Joblessness has emerged as a major communal problem in both industrialized and budding nations (Toro, 2007). The condition of joblessness is likely to be a universally stressful life happening with the potential for solemn risks to physical and psychological healthiness (Biswas-Diener and Diener, 2006; Hodgetts et. al., 2007). Joblessness often comes with a cascade of stressful life events, such as eviction, job loss, relocation, illness, and abuse (Munoz et. al., 1999) and competing needs for fundamental safety, food, and healthcare. Despite efforts to represent the varied stories of individuals confronting joblessness as citizens worthy of shelter and intervention, negative perceptions of jobless individuals persist (Morrell, 2007).

Those who find themselves jobless are on the lowest rung of the socioeconomic ladder. The gradient between health and socioeconomic status is well established; showing that health decreases as financial and social capital decreases (Adler and Snibbe, 2003; Marmot, 2005). Reports on joblessness and health describe numerous disheartening risk factors associated with being jobless. These risks include physical, medical, environmental, social, psychological, and behavioral aspects coupled with limited access to prevention, education, and intervention services (Baum et. al., 1999; Wong, 2002; Wong and Piliavin, 2001).

The combined impact of multiple and severe difficulties present in a single person can interact and aggravate each other, leading to a high aggregate of vulnerability in individuals facing joblessness (Hodgetts et al., 2007). Additionally, the combination of increased psychological stress, inadequate healthcare services, and unhealthy lifestyle factors (e.g., smoking, physical inactivity) was found to increase the risk of premature death for jobless people (Krueger and Chang, 2008). This stress burden may manifest as pronounced negative reactions to psychological stress such as pessimism, mood deregulation, increased emotional agony, learned helplessness, negative coping strategies such as substance abuse, and heightened physiological arousal (Kassel et. al., 2003) and elevated levels of negative emotion (Matthews et al., 2010). Moreover, mental health disorders, such as mood disorders, anxiety disorders, and addiction are prevalent in the joblessness population (Reus, 2012).

One approach that has shown clinical promise with several populations at higher risk for heightened stress and agony is Pranayama-based stress reduction training (Rubini, 2009; Smith et al., 2005). Pranayama training may be an unconventional yet accessible and cost-effective approach to stress reduction with jobless people (Grabbe et al., 2011; Hick and Furlotte, 2010). Pranayama-based approaches such as Mindfulness Based Stress Reduction (MBSR) provide a means to enhance self-awareness, healthy coping, wellness, and life satisfaction (Hick and Furlotte, 2010) and may improve health outcomes for low-income populations (Roth and Stanley, 2002).

RESEARCH METHODOLOGY

The sample used for the current study consisted of 196 jobless people in Nagpur city. A total of 117 study participants underwent the Pranayama training and 79 were part of a “treatment-as-usual” comparison group that received normal stress relief medicines only. Approximately 61% of participants in the combined sample completed the study. The age of participants ranged from 23 to 40 years, with an age mean of 29.3 years (standard deviation = 9.09).

Questions about participants’ gender were not collected for this data set and, thus, cannot be reported. The majority of the participants identified as (63.5%), single, and unemployed (79.6%), with most having received at least a high school diploma. The duration of joblessness of the individual participants ranged from newly jobless to jobless above 5 years. A substantial percentage (35.7%) was jobless for a duration of six to 24 months. Chi-square analyses on all demographic variables indicated that there were no significant differences between treatment and comparison groups. Of the total sample, 43.6% dropped out for the Pranayama group and 34.2% dropped out of the normal medicine only group. Pearson Chi-Square analysis indicated no statistically significant differences for drop-out rates between the groups ($p = .234$, two-tailed).

The study design was quasi-experimental design and groups were not randomly assigned. Participants voluntarily selected to join the Pranayama training group or the normal medicine only comparison group. The time requested of study participants included (a) participation in Pranayama training for two hours per week for four weeks (treatment group only); (b) completion of demographic survey and baseline assessment measures (both groups); (c) completion of pre-training qualitative interview (both groups); (d) completion of post-training assessment measures (both groups); and (e) completion of post-training qualitative interview (both groups). The data were analyzed using SPSS for statistical analysis. Pranayama group and normal treatment group participants completed identical measures of stress, psychological agony and affect, and life satisfaction.

The Perceived Stress Scale (PSS) (Cohen, Kamarck, and Mermelstein 1988) is a 10-item, self-report inventory and is widely used in behavioral science research. The PSS was administered to each participant through a written paper survey, and was the first measure in the survey. This instrument measures perceived stress, or the degree to which an individual appraises situations as stressful, and was designed to measure how unpredictable, uncontrollable, and overloaded respondents view their lives (Cohen, Kessler, and Gordon 1995). The participant is asked to reflect on events over the last month. Questions are intentionally general and nonspecific. For example, "In the last month, how often have you felt that you were unable to control the important things in your life?" Responses are structured with a 5-point Likert scale (0, 1, 2, 3, 4: Never, Almost Never, Sometimes, Fairly Often, Very Often) for each question.

The data for the archival study were collected using the condensed version of the instrument, the PSS-10, which has been shown to have a higher internal reliability (Cronbach's $\alpha = .78$) and tighter factor structure than the original PSS. The PSS-10 was used to operationalize the dependent variable known as "perceived stress." It yields a single summary score. Six out of 10 questions directly measure perceived stress, while questions four, five, seven, and eight indirectly measure perceived stress. Thus, scores for indirect measurements of perceived stress are reverse-scored; 0 = 4, 1 = 3, 2 = 2. Higher scores on the PSS-10 indicate higher perceived stress. Evidence has also been found that this scale is a valid measure for those with greater vulnerability to depressive symptoms caused by stressful life events (Cohen, 1994). The PSS was designed for people with at least a junior high school education. Though the PSS measure has an extensive track record with diverse populations with high internal reliability levels, in the current sample, alpha scores were somewhat lower (pretest: Cronbach's $\alpha = 0.45$, posttest: Cronbach's $\alpha = 0.55$).

The Positive and Negative Affect Schedule (PANAS-X) (Watson and Clark, 1994) was developed to measure two dominant and distinct dimensions of emotional experience: Positive Affect (PA) and Negative Affect (NA) (Watson and Clark, 1994). Watson, Clark, and Tellegen (1988) have defined NA as a global dimension of psychological agony. The original PANAS measure was developed by Watson et al. (1988). The dimension of PA reflects the extent to which a person feels enthusiastic, jovial, and active (Watson, Clark, and Tellegen, 1988). High scores on the PA scale indicate an individual respondent is experiencing feelings of cheerfulness, confidence and pleasurable engagement; whereas, the dimension of NA reflects the degree to which one is experiencing acute or aversive emotional states such as, anger, fear, and disgust (Watson et al., 1988).

The Symptom Questionnaire (SQ) (Kellner, 1987) is a 92-item forced choice, self-report measure. Items are simple phrases or one-word questions for which the participant responds to with "yes or no" or "true or false." Participants were asked to describe how they felt over the last week. For example, Item 1 is "nervous." The participant would then answer yes to report if they felt nervous over the last week. It was administered to each participant through a written paper survey, and was the third measure in the survey packet.

The Quality of Life Satisfaction Scale (QOLS) (Flanagan, 1978) is a self-report inventory measuring six conceptual domains: (a) material and physical well-being; (b) relationships with others; (c) social, civic, and community participation; (d) personal development and fulfillment; (e) recreation; and (f) independence. This instrument asks participants to rate their level of current satisfaction with various life domains. Answers are given using a 7-point Likert scale ranging from 1 to 7 (terrible, unhappy, mostly dissatisfied, mixed, mostly satisfied, pleased, delighted). Qualitative Interviews were conducted at the outset and at the end of the AHW study for all the study participants. Some of the interview questions were "What do you usually do when you get upset or experience difficult emotions?" "What are your long term goals?" "What five adjectives describe you, and what five adjectives best describe your life?" Interview responses were written down at the time of the interview and were not audio recorded.

RESULTS AND DISCUSSION

The current study utilized archival data from a quasi-experimental, pre-post, self-report survey design to evaluate outcomes on measures of psychological stress, emotional agony and quality of life for sheltered jobless people. The current study hypothesized that brief training in Pranayama would decrease psychological stress and agony, and increase quality of life for jobless people over normal treatment comparison group. The overall trend in the within group data suggests that Pranayama training is a feasible and viable intervention for agonyed jobless people and may show improvement in as few as four to six sessions.

Table – 1: Experimental Group and Control Group Combined (N=196); Paired Sample t-Tests Comparing Pre and Post-Test Differences in Mean Scores.

Measure	Pre M	SD	Post M	SD	95% CI	df	t	p	d
PSS	2.9	0.8	2.5	0.7	0.2 - 0.4	117	5.2	0.000	0.45
NA	20.7	8.6	18.9	7.8	0.7 - 0.9	115	3.2	0.002	0.22

QOLS	70.2	17.6	72.5	14.9	-4.6 - -0.0	116	-2.0	0.047	0.14
PA	32.1	8.3	32.7	8.1	-2.0 - 0.7	115	-0.9	0.366	0.08
Anx	8.9	6.5	7.3	6.2	0.8 - 2.6	115	3.9	0.000	0.27
Dep	7.6	6.2	5.9	6.0	0.8 - 2.7	115	3.6	0.000	0.22
Som	9.8	6.5	8.4	6.1	0.5 - 2.2	115	3.2	0.002	0.28
Hos	5.4	5.1	4.4	4.9	0.1 - 1.9	115	2.3	0.023	0.20

CI = Confidence interval; PSS = Perceived Stress Scale; NA=Negative affect scale of the Positive and Negative Affect Schedule (PANAS); PA = Positive affect scale of the PANAS; QOLS = Quality of Life Satisfaction Scale; Anx = anxiety scale; Dep = Depression scale; Som = Somatic symptoms scale; Hos = hostility scale.
* p< .05, two-tailed .
** p< .005, two-tailed.

For the Pranayama group there were statistically significant differences indicative of post-treatment improvements on three global scales: perceived stress, psychological agony, and quality of life satisfaction as well as statistically significant improvements on all SQ agony scales of anxiety, depression, somatic symptoms, and hostility. Several Pranayama studies have utilized paired-sample t-Test scores with one and two-group designs, coupled with effect sizes, to examine the effectiveness of Pranayama training programs (Grabbe et al., 2011; Kumar, 2008; Rani et al., 2011). Having the results of this study be consistent with other research is encouraging as the outcome changes were measurable after four to six sessions of Pranayama training.

Reductions seen on perceived stress scores suggest that this group may have increased their ability to cope and manage stress. It may also indicate that participants viewed their circumstances as less overwhelming and uncontrollable. Statistically significant reductions in PSS scores were also reported in several yoga nidra and iRest studies (Banerjee et al., 2011; Satyapriya et al., 2009). When seen as an acquired skill, Pranayama training can expand a client's repertoire of coping, enhance positive emotions, optimism, locus of control and possibly alter one's appraisal of difficult life events as opportunities for growth and change (Overholser and Fisher, 2009). Results from those in the normal treatment only group demonstrate statistically significant differences on two scales, perceived stress and anxiety with small effect sizes, suggesting that normal medicines were likely to have some degree of influence on reduction in stress and anxiety levels.

Another interesting result of the current study involves that of statistically significant improvement in quality of life satisfaction scores. As described earlier, the QOLS measures, which evaluates how much people experience their lives in positive ways across domains of financial security, relationships, work, and independence. Although the material realities of this group were unlikely to change substantially in four weeks, the change in QOLS scores would imply that their outlook or experience of their lives may have improved. Therein lays an interesting line of questioning. Though the physical, material and social hardships of joblessness cannot be altered by a brief Pranayama program, can it improve one's outlook on life and increase the experience of subjective well-being? Finding an answer to this question is far beyond the scope of the current study due to the limitations described here. However, hypothetically, meaningful improvements in coping and negative mood can positively impact one's overall appraisal of health and well-being. Overall, it appears that the Pranayama was a feasible and potentially beneficial intervention for jobless individuals. Moreover, the program was a viable adjunct to housing and service provision, offering a brief, well-tolerated, non-pharmaceutical, cost-effective, group-based approach to teaching positive coping and mind-body skills to people.

CONCLUSION

These findings must be interpreted with caution due to the lack of sufficient control group data. Moreover, findings must be verified with more rigorous study designs and randomized control trials. The potential for practices such as Pranayama to contribute to improved emotional regulation, healthy coping behaviors and reduced psychological stress for this population has not been previously tested and is an important avenue for further exploration. The findings reported here support the viability of utilizing Pranayama for high agony groups such as jobless people and support other studies that found Pranayama training to be accessible, well-tolerated, and well-received by jobless people.

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